



# Oil Price and the Cost Competitiveness of Petrochemicals

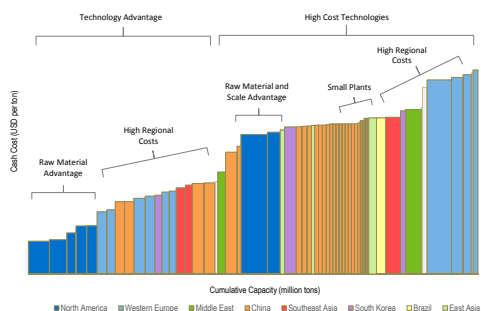
## Report Overview

Crude oil prices have fallen dramatically since July 2014, and current prices are significantly below prices that may have been used to evaluate investments in the oil and petrochemicals sectors. Investments in these sectors must be re-evaluated to understand project viability under a new view of oil prices and where they may go from here.

While it is general industry consensus that oil prices will rebound in the longer term, it is difficult to predict the near term future of oil prices which will heavily influence the petrochemical value chains and their global cost competitiveness. Given the large capital investments required to develop world scale petrochemical plants, project sponsors need to understand how the cost competitiveness and return on capital of their investments will be impacted under various oil price scenarios.

This special report presents the current and future production economics for various petrochemicals and will help project developers, lenders and customers understand which investments are advantaged in various regions of the world.

## Global Cost Curve Analysis



## Some Key Questions Answered

- Under different oil price scenarios, which commodity petrochemical investments and regions provide the best returns on capital?
- What regions of production will be cost advantaged?
- Will methanol to olefins be a competitive threat to traditional steam-cracking routes for olefins?
- Which technologies and locations become more attractive for capacity additions under low oil price and high oil price scenarios?

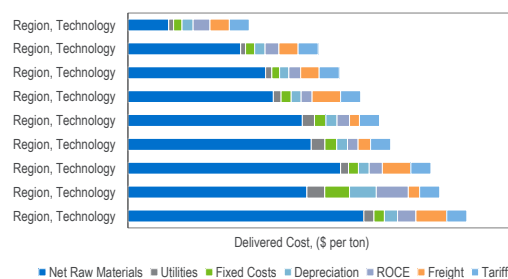
## Subjects Addressed

This report studies the financial attractiveness, under three oil scenarios, of world scale plant investments for the production of major petrochemical products based on a 2021 plant start-up. Providing a backdrop for the investment analysis, a global

cost curve analysis is included for nineteen products from the value chains of ethylene (ethylene, HDPE, LDPE, LLDPE, ethylene oxide, ethylene glycol, vinyl chloride, PVC), propylene (propylene, polypropylene, propylene oxide, phenol, acrylic acid, acrylonitrile), and aromatics/polyester (benzene, styrene, *para*-xylene, terephthalic acid, polyethylene terephthalate).

The report then investigates the impact of oil price on six petrochemical plant investment options through several complementary analyses. Delivered cost competitiveness identifies which production technologies and producing regions have the greatest cost advantage based on designated target markets under three oil scenarios for 2021.

## Delivered Cost Competitiveness



Investment attractiveness as measured by return on capital then illustrates the impact of regional prices on profitability. The return on capital analysis for each product and each oil scenario illustrates which mix of product, producing region, and target market delivers the greatest investment attractiveness.

Production cost competitiveness then completes the investment analysis. This analysis compares the operating cost of new plant investments with global operating plants on a projected 2021 global cost curve and informs investors of the operational risk associated with operating the plant in a global environment.

## Who Should Buy Oil Price and the Cost Competitiveness of Petrochemicals?

Nexant's report will be a valuable resource for petrochemical companies, financial sponsors, and customers considering future market development and investment decisions for major petrochemicals and derivatives chains.

Cost curve analyses for major petrochemical value chains are also available as separate reports.

For information regarding the report, **Oil Price and the Cost Competitiveness of Petrochemicals**, please contact [STMC@nexant.com](mailto:STMC@nexant.com).



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